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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------|
| 10/643,945 | 08/20/2003 | Kazuhiko Nakazato | VX032548 | 5404 |
| 21369 | 7590 | 03/14/2006 | | |
| POSZ LAW GROUP, PLC 12040 SOUTH LAKES DR. SUITE 101 RESTON, VA 20191 | | | EXAMINER SUHOL, DMITRY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3725 | |

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/643,945 | Applicant(s) NAKAZATO, KAZUHIKO | |
| | Examiner Dmitry Suhol | Art Unit 3725 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 6, 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aria '686 in view of Katayama (JP 2001-269721) and Flehmig et al (WO 01/83130). Aria discloses a bending apparatus and method containing most of the claimed elements including with respect to claim 1, an inner pipe (11), and outer pipe (12), an inside mandrel (5), a tubular outside mandrel (6), a bending die (1), a clamping die (2), a pressure die (4), a crease-removing die (3), where the pipe is bent by causing the clamping die to revolve around the bending die while the inner pipe is pushed in the direction of the distal end of the inner pipe (figure 2 and col. 4, lines 27-41). The distant end of the outside mandrel protruding further toward the distal end of the pipe than an anticipated bending range, is disclosed in applicants own specification in paragraph 0007, which states that the length of the outside mandrel corresponds to the length on the double pipe and therefore encompasses the claim.

Katayama discloses a device like that of Aria which teaches that the outside mandrel may be constructed from a flexible elastic material which is positioned to

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protrude toward the distal end of the pipe from a bending start point (figures 1 and 2 and abstract) of the purpose of better maintaining the gap between the inner and outer pipes, while Flehmig also discloses a device like that of Aria which teaches that it is beneficial to provide the tips of mandrels of such devices with at least three slits (S1, figure 1) for the purpose of aiding in bending of the mandrel. Therefore, it would have been obvious to one having ordinary skill in the art, at the time of the claimed invention, to have manufacture the outer mandrel of Aria from an elastic material positioned such that it protrudes toward the distal end of the pipe for the purpose of better maintaining the gap between the inner and outer pipes during bending. Additionally, it would have been obvious to incorporate at least three slits for the purpose of aiding the tip portion of the mandrel to bend.

Regarding claim 6, Aria discloses an inner mandrel with a tip which is adjustable with the bending of the pipe to assist in preventing the inner from buckling, while Flehmig teaches that it is known to manufacture such tips from a material with high elasticity (tip 4). Therefore it would have been obvious to manufacture the distal end portion of the inside mandrel of Aria from a highly elastic material since the two (elastic material and the movable design of Aria) are equivalents as they fulfill the same function and the selection of either one would have been within the skill and obvious to one with ordinary skill in the art.

Claims 5, 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aria '686, Katayama (JP 2001-269721) and Flehmig et al (WO 01/83130), as

stated above, and further in view of Crotti '839. Aria, as modified by Katayama and Flehmig, disclose all of the claimed elements as stated above, but for the specific materials of construction for the inside and outside mandrels as required by claims 5, 7 and 12. However, Crotti teaches that flexible mandrels are known to be manufactured from a polyethylene or nylon material (col. 1, lines 6-8). Therefore it would have been obvious to manufacture the inner and outer mandrels of Aria from either polyethylene or nylon for the purpose of durability and flexibility.

Response to Arguments

Applicant's arguments filed 12/22/2005 have been fully considered but they are not persuasive. Applicants first argue that the teachings of Arai, Katayama, Fleming and Crotti do not teach bending a pipe by causing the clamping die to revolve around the bending die while the inner pipe is pushed in the direction of the distal end of the inner pipe. In response the examiner points out that such limitations are explicitly taught by Aria in figure 2 and col. 4, lines 27-41.

Applicants further argue that the above reference combination does not teach a specific material for the outside mandrel as required by claims 5, 7 and 12. In response the examiner points out that Crotti clearly teaches the use of such material for a mandrel and therefore the combination would have been obvious to an artisan having ordinary skill in the art as stated above.

Additionally, applicants argue that since Aria and Katayama are concerned with bending a double walled pipe while Flehmig is concerned with the bending of a single

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walled pipe such a combination would not have been obvious. In response the examiner points out that the nexus which links the inventions together is that they are all concerned with the bending of pipes and thus an artisan having ordinary skill in the art would have looked to all of the above references and their respective teachings at the time of applicants invention.

With respect to the argument that the device of Flehmig would not be appropriate for bending a double walled pipe it is pointed out that the slits of Flehmig would in no way prevent the functionality of Aria and would only improve it by allowing the tip to be bend with ease and therefore would have been obvious to one having ordinary skill in the art.

In response to applicant's argument that they have a different reason for the slits in their mandrel, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Suhol whose telephone number is 571-272-4430. The examiner can normally be reached on Mon - Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dmitry Suhol
Primary Examiner
Art Unit 3725

ds